What is claimed is:

1. A method, comprising:

obtaining scatterometry signals by performing scatterometry measurements on at least two grating structures with different process responses, said at least two gratings structures being located within the same field and in close proximity to one another;

comparing scatterometry signals from said at least two different grating structures in order to ascertain information about one or more process parameters used to form said at least two grating structures; and

controlling said one or more process parameters based on said comparison.

2. The method as recited in claim 1 wherein the step of comparing comprises:

determining the difference between scatterometry signals from said at least two grating structures.

3. The method as recited in claim 2 wherein the step of comparing further comprises:

determining the effective values of said one or more process parameters by comparing the difference to calibration data.

4. The method as recited in claim 3 wherein the step of controlling comprises:

controlling said one or more process parameters in accordance with the effective values of said one or more process parameters.

5. The method as recited in claim 3 wherein the calibration data is in the form of one or more equations, graphs or libraries.

6. The method as recited in claim 3 wherein the calibration comprises:

performing scatterometry measurements on a plurality sets of grating structures with different process responses for varying process conditions;

calculating the difference between the scatterometry signals for each set of grating structures;

mapping the differences as a function of the varying process conditions.

7. The method as recited in claim 2 wherein the step of comparing further comprises:

determining if the difference is within a predetermined control limit.

8. The method as recited in claim 7 wherein the step of controlling comprises:

controlling said one or more process parameters in accordance with whether or not the difference is within said predetermined control limit.

9. The method as recited in claim 2 wherein the different scatterometry signals are subtracted from one another in order to produce a difference signal.

10. The method as recited in claim 9 wherein a difference property is obtained from the difference signal.

11. The method as recited in claim 10 wherein the difference signal or some property thereof is compared to calibration data in order to determine the effective values of one or more process parameters.

12. The method as recited in claim 1 further comprising:

forming said at least two or more grating structures with different process responses on a wafer with a mask.

13. The method as recited in claim 1 further comprising:

designing a mask with two or more masking structures, each of which is configured to produce a grating structure that responds differently to one or more process parameters.

14. A method for controlling one or more process parameters, comprising:

obtaining scatterometry signals for at least two grating structures, each of the grating structures producing a scatterometry signal having different sensitivities to one or more process parameters which are desired to be controlled;

comparing scatterometry signals in order to ascertain information about one or more process parameters used to form the different grating structures, each of the scatterometry targets being configured to produce different scatterometry signals, the differences being attributable at least in part to one or more process parameters.

15. A method of determining optimal or best focus, the method comprising:

forming a target group at a plurality of focus settings, the target group containing two or more targets with different sensitivities to focus;

obtaining scatterometry signals for each of the targets in the target groups;

calculating difference signals for each target group;

forming a relationship between the difference signal or a property of the difference signal to the focus settings; and

determining optimal or best focus using the relationship.

16. The method as recited in claim 15 further comprising:

calculating a property for each of the difference signals.

17. The method as recited in claim 16 wherein the property is calculated using root mean squared difference

18. A process control method, comprising:

measuring two or more measurable patterns that are configured to produce different scatterometry signals, the differences between the signals being due at least in part to one or more process parameters used to create the measurable patterns; and

analyzing the difference signals to determine the best process conditions for a photolithographic process, the analyzing step including extracting information about one or more process parameters out of the difference signals.

19. A target group, comprising:

two or more scatterometry targets configured to have different process responses, the two or more scatterometry targets being located within the same field and in close proximity to one another, the scatterometry targets with different process response producing different scatterometry signals, the differences in the

scatterometry signals being attributable at least in part to one or more process parameters used to create the scatterometry targets.

20. The target group as recited in claim 19 wherein the scatterometry targets are grating structures, a first grating structure including a first parameter having a first value formed from a first sensitivity to a process parameter, a second grating structure including a first parameter having a value formed from a second sensitivity to the process parameter.

21. The target group as recited in claim 20 wherein the second sensitivity is greater than or less than the first sensitivity.

22. The target group as recited in claim 20 wherein the grating structures are printed on the surface of a workpiece, the surface representing an exposed layer of photoresist, a partially developed layer of photoresist, a developed layer of photoresist, or an underlayer of the workpiece.

23. The target group as recited in claim 20 wherein the grating structures are located within the scribeline, device structure or within both the scribeline and the device structure.

24. The target group as recited in claim 20 wherein the grating structures are periodic in one direction or two directions.

25. The target group as recited in claim 20 wherein the first and second grating structures have the same pitch, but different linewidths or diameters.

26. The target group as recited in claim 20 wherein the grating structures are both positive tone or negative tone.

27. The target group as recited in claim 20 wherein at least one of the grating structures is a positive tone and the other is a negative tone.

28. The target group as recited in claim 20 wherein the first and second grating structures have the same pitch in both the x and y directions, but different optical proximity corrections (OPC).

29. The target group as recited in claim 20 at least one of the grating structures includes segmented lines.

30. The target group as recited in claim 29 wherein the first and second grating structures have the same pitch, but different segment widths.

31. The target group as recited in claim 29 wherein the first and second grating structures have the same pitch, but different shape segments.